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PTO/SB/21 (09-04)

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Application Number	10/052,004
Filing Date	1/7/2002
First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

ENCLOSURES (Check all that apply)

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Remarks
Enclosed are copies of the references cited in the IDS submitted on October 28, 2004.

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Firm Name	Baker & McKenzie LLP		
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Re	Application no. 10/052,004				
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22122878-10

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re Application of: Anthony Zuppero et al.

Art Unit: 1753

Serial No.: 10/052,004

Examiner: Alan D. Diamond

Filed: January 17, 2002

Date: October 28, 2004

Customer No: 26453

Confirmation No.: 9133

For: ELECTRON-JUMP CHEMICAL ENERGY CONVERTER

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INFORMATION DISCLOSURE STATEMENT

S I R:

1. In accordance with the duty of disclosure under 37 C.F.R. § 1.56 and in conformance with the procedures of 37 C.F.R. § § 1.97 and 1.98 and M.P.E.P. § 609, attorneys for Applicants hereby bring the following references, which are listed on the attached modified PTO Form No. 1449 to the attention of the Examiner. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.
2. Applicants respectfully request that the following co-owned patents and co-pending applications be considered and made of record in the present application:

US Patent Nos. 6,114,620 (cited on PTO-892 by the Examiner); 6,218,608 (cited on PTO-892 by the Examiner); 6,222,116 (cited on PTO-892 by the Examiner);

CERTIFICATE OF TRANSMISSION

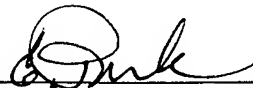
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Amelia Finker

6,268,560 (cited on PTO-892 by the Examiner); 6,327,859 (cited on PTO-892 by the Examiner); 6,700,056 (cited on PTO-892 by the Examiner); 6,678,305 (cited on PTO-892 by the Examiner); 6,649,823 (cited on PTO-892 by the Examiner); 6,327,859 (cited in the Office Action of September 23, 2004); 6,268,560; and US Patent Application Nos. 09/682,363 (cited on PTO-892 by the Examiner); 10/218,706 (cited on PTO-892 by the Examiner); 10/185,086 (cited on PTO-892 by the Examiner); 09/631,463 (cited in the Office Action of September 23, 2004); 10/625,801 (cited in the Office Action of September 23, 2004); 10/759,341. The references cited in each of those patents and applications are listed on Form 1449 accompanying this information disclosure statement.

3. Copies of the references listed on the modified PTO form 1449 will follow under separate cover by first class mail due to their volume.
4. No fee is deemed necessary with the filing of these documents. If a fee is deemed necessary, we authorize the Commissioner of Patents and Trademarks to charge Deposit Account No.: 02-0393.

Respectfully submitted,



Eunhee Park
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Application Number	10/052,004
Filing Date	1/17/2002
First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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22122878-10

U. S. PATENT DOCUMENTS.

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)	MM-DD-YYYY		
		US- 20020070632	06-2002	Zuppero et al.	
		US- 4651324	03-1987	Prein et al.	
		US- 5337329	08-1994	Foster, Jack	
		US- 4756000	07-1988	Macken, John A.	
		US- 5999547	12-1999	Schneider et al.	
		US- 5048042	09-1991	Moser et al.	
		US- 5587827	12-1996	Hakimi et al.	
		US- 4012301	03-1977	Rich et al.	
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Application Number	10/052,004
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First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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		Number - Kind Code ³ (if known)			
		US-6084173	07/04/2000	DiMatteo	
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		HARRISON, P. et al., The Carrier Dynamics of Far-Infrared Intersubband Lasers and Tunable Emitters, Institute of Microwaves and Photonics, University of Leeds, U.K., pp. 1-64	
		WEBER, et al., to X2 Electron Transfer Times in Type-II GaAs/AlAs Superlattices Due to Emission of Confined and Interface Phonons, Superlattices and Microstructures, Vol. 23, No. 2 (1998).	
		FANN, W.S. et al., Electron Thermalization in Gold, Physical Review B, Brief Reports, Vol. 46, No. 20, (1992)	
		Ultrafast Surface Dynamics Group, Time-Resolved Two-Photon Photoemission (TR-2PPE), http://www.ilp.physik.uni-essen.de/aeschlimann/2y_photo.htm	
		LEWIS et al., Vibrational Dynamics of Molecular Overlayers on Metal Surfaces, Dept. of Chemistry, University of Pennsylvania, http://lorax.chem.upenn.edu/molsurf/cucotalk/html .	
		RETTNER et al., Dynamics of the Chemisorption of O ₂ on Pt(111): Dissociation via Direct Population of a Molecularly Chemisorbed Precursor at High Incidence Kinetic Energy, The Journal of Chemical Physics, Vol. 94, Issue 2 (1991)	
		FRIEDMAN et al., SiGe/Si THz Laser Based on Transitions Between Inverted Mass Light-Hole and Heavy Hole Standards, Applied Physics Letters, Vol. 78, No. 4 (2001)	
		HARRISON et al., Population -Inversion and Gain Estimates for a Semiconductor TASER	
		HARRISON et al., Theoretical Studies of Subband Carrier Lifetimes in an Optically Pumped Three-Level Terahertz Laser, Superlattices and Microstructures, Vol. 23, No. 2 (1998)	
		HARRISON et al., Room Temperature Population Inversion in SiGe TASER Designs, IMP, School of Electronic and Electrical Engineering, The University of Leeds	
		SUN et al., Phonon-Pumped Terahertz Gain in n-Type GaAs/AlGaAs Superlattices, Applied Physics Letters, Vol. 7, No.22 (2001)	

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		ALTUKHOV et al., Towards Si1-xGex Quantum-Well Resonant-State Terahertz Laser, Applied Physics Letters, Vol. 79, No. 24 (2001)	
		SUN et al., Intersubband Lasing Lifetimes of SiGe/Si and GaAs/AlGaAs Multiple Quantum Well Structures, Applied Physics Letters, Vol. 66, No. 25 (1995)	
		SUN et al., Phonon Pumped SiGe/Si Interminiband Terahertz Laser	
		SOREF et al., Terahertz Gain in a SiGe/Si Quantum Staircase Utilizing the Heavy-Hole Inverted Effective Mass, Applied Physics Letters, Vol. 79, No. 22 (2001)	
		AESCHLIMANN et al., Competing Nonradiative Channels for Hot Electrons Induced Surface Photochemistry, Chemical Physics 202, 127-141 (1996)	
		AUERBACH, Daniel J., Hitting the Surface-Softly, Science, Vol. 294, pp. 2488-2489 (2001)	
		BADESCU et al., Energetics and Vibrational States for Hydrogen on Pt(111), Physical Review Letters, Vol. 88, No. 13 (2002)	
		BALANDIN et al., Effect of Phonon Confinement on the Thermoelectric Figure of Merit of Quantum Wells, Journal of Applied Physics, Vol. 84, No. 11 (1998)	
		BARTELS et al., Coherent Zone-Folded Longitudinal Acoustic Phonons in Semiconductor Superlattices: Excitation and Detection, Physical Review Letters, Vol. 82, No. 5 (1999)	
		BAUMBERG et al., Ultrafast Acoustic Phonon Ballistics in Semiconductor Heterostructures, Physical Review Letters, Vol. 78, No. 17 (1997)	
		BEDURFTIG et al., Vibrational and Structural Properties of OH Adsorbed on Pt(111), Journal of Chemical Physics, Vol. 111, No. 24 (1999)	

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Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
		VALDEN et al., Onset of Catalytic Activity of Gold Clusters on Titania with the Appearance of Nonmetallic Properties, Science, Vol. 281 (1998)	
		BONDZIE et al., Oxygen Adsorption on Well-Defined Gold Particles on TiO ₂ (110), J. Vac. Sci. Technol. A17(4) (1999)	
		BEZANT et al., Intersubband Relaxation Lifetimes in p-GaAs/AlGaAs Quantum Wells Below the LO-Phonon Energy Measured in a Free Electron Laser Experiment, Semicond. Sci. Technol. 14 (1999)	
		BRAKO et al., Interaction of CO Molecules Adsorbed on Metal Surfaces, Vacuum 61,89-93 (2001)	
		BURGI et al., Confinement of Surface State Electrons in Fabry-Perot Resonators, Physical Review Letters, Vol. 81, No. 24 (1998)	
		BURGI et al., Probing Hot-Electron Dynamics at Surfaces with a Cold Scanning Tunneling Microscope, Physical Review Letters, Vol. 82, No. 22 (1999)	
		CHANG, Y.M., Interaction of Electron and Hot Plasma with Coherent Longitudinal Optical Phonons in GaAs, Applied Physics Letter, Vol. 80, No. 14 (2002)	
		CHANG et al., Observation of Coherent Surface Optical Phonon Oscillations by Time-Resolved Surface Second-Harmonic Generation, Physical Review Letters, Vol. 78, No. 24 (1997)	
		CHANG et al., Coherent Phonon Spectroscopy of GaAs Surfaces Using Time-Resolved Second-Harmonic Generation, Chemical Physics 251, 283-308 (2000)	
		CHANG et al. Observation of Local-Interfacial Optical Phonons at Buried Interfaces Using Time-Resolved Second Harmonic Generation, Physical Review B, Vol. 59, No. 19 (1999)	
		CHEN et al., Stimulate-Emission-Induced Enhancement of the Decay Rate of Longitudinal Optical Phonons in III-V Semiconductors; Applied Physics Letters, Vol. 80, No. 16 (2002)	

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First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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		CORCELLI et al., Vibrational Energy Pooling in CO on NaCl(100): Methods, Journal of Chemical Physics, Vol. 116, No. 18 (2002)	
		FIERZ et al., Time-Resolved 2-Photon Photoionization on Metallic Nanoparticles, Appl. Phys. B 68 (1999); http://www.ilp.physik.uni-essen.de/aeschlimann/abstract.htm#6	
		BEZANT et al., Intersubband Relaxation Lifetimes in p-GaAs/AlGaAs Quantum Wells Below the LO-Phonon Energy Measured in a Free Electron Laser Experiment, Semicond. Sci. Technol., 14 No.8 (1999)	
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		HARRISON et al., The Carrier Dynamics o Far-Infrared Intersubband Lasers and Tunable Emitters, www.ee.leeds.ac.uk/homes/ph/	
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Application Number	10/052,004
Filing Date	1/17/2002
First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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		HARRISON et al., The Carrier Dynamics of Far-Infrared Intersubband Lasers and Tunable Emitters, www.ee.leeds.ac.uk/homes/ph/	
		HARRISON et al., Theoretical Studies of Subband Carrier Lifetimes in an Optically Pumped Three-Level Terahertz Laser, Superlattices and Microstructures, Vol. 23, No. 2 (1998)	
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		HYH et al., Methanol Oxidation of Palladium Compared to Rhodium at Ambient Pressures as Probed by Surface-Enhanced Raman and Mass Spectroscopies, Journal of Catalysis, Vol. 174 (2) (1998)	
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		US- 6,119,651	09-19-2000	Anderson	
		US- 5,408,967	04-25-1995	Foster	
		US- 5,293,857	03-15-1994	Meyer	
		us-2002/0121088	9-5-2002	Zuppero et al.	
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		US- 4,686,550	08-11-1987	CAPASSO, et al.	
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		US- 6,232,546	05-15-2001	DIMATTEO, et al.	
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		BONDZIE, V. A., et al.; "Oxygen adsorption ... gold particles ... TiO ₂ (110)"; J. Vac. Sci. Tech. A., (1999) 17, pp. 1717 and figure 3	
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		CHIANG, T.-C.; "Photoemission studies of quantum well states in thin films; Surf. Sci. Rpts.39 (2000) pp 181-235	
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		GEB, Adam T., et al.; "The dynamics of O2 adsorption on Pt(533)..."; J. Chem. Phys.(2000) 113, pp. 10333-10343	
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		HOHLFELD, J, et al.; "Electron and lattice dynamics ... optical excitation of metals"; Chemical Physics, 251 (2000) pp 237-258	
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		ISHIKAWA, Yasuyuki, et al.; "Energetics of H ₂ O dissociation and COads+OHads reaction .. Pt."; Surf. Sci. preprints SUSC 12830, 27 April 2002	
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First Named Inventor	Anthony C. Zuppero
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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		MITSUMI, T., et al.; "Coadsorption and interactions of O and H on Pd(111)"; Surf. Sci., Article 12767, (2002)	
		MOULA, Md. Golam, et al.; "Velocity distribution of desorbing CO ₂ in CO oxidation on Pd(110)..."; Applied Surf. Sci., 169-170, pp 268-272 (2001)	
		MULET, Jean-Philippe, et al.; "Nanoscale radiative heat transfer between a small particle ..."; Appl. Phys. Lett., 78, (2001) p 2931	
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		NIENHAUS, H., et al.; "Selective H atom sensors using ultrathin Ag/Si Schottky diodes"; Appl. Phys. Lett. (1999) 74, pp. 4046-4048	
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		NIENHAUS, H, et al.; "Electron-Hole Pair Creation at Ag and Cu ... of Atomic Hydrogen and Deuterium"; Phys. Rev. Lett., 82, (1999) pp. 446-449	
		NOLAN P. D., et al.; "Direct verification of... precursor to oxygen dissociation on Pd(111)"; Surf. Sci. v. 419(#1) pp. L107-L113, (1998)	

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		NOLAN, P. D., et al.; "Molecularly chemisorbed intermediates to oxygen adsorption on Pt ..."; J. Chem. Phys. 111, (1999), pp 3696 - 3704	
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		RINNEMO, Mats; "Catalytic Ignition and Kinetic Phase Transitions"; 1996; http://www2.lib.chalmers.se/cth/diss/doc/9596/RinnemoMats.html	
		ROBERTSON, A. J. B.; "Catalysis of Gas Reactions by Metals"; Logos Press Limited; 1970; LC # 70-80936; pp. 1-5, 10, 41; Great Britain, Adlard & son Ltd	

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		SCHEWE, P., et al.; "CO ₂ Production at the Single-Molecule Level"; http://www.aip.org/eneews/physnews/2001/split/561-1.html	
		SHENG, H., et al.; "Schottky diode with Ag on (110) epitaxial ZnO film"; Appl. Phys. Let. (2002) 80, pp. 2132-2134	
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		TARVER, Craig M.; "Non-Equilibrium Chemical Kinetic ... Explosive Reactive Flows"; Fall 1999 IMA Workshop: High-Speed Combustion in Gaseous and Condensed-Phase	
		TAYLOR, R.A., et al.; "Strong Electron-LO Phonon Scattering and Hot Carrier Relaxation in GaN"; http://www.physics.ox.ac.uk/rtaylor/images/ha249kw3.pdf	

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		TEODORESCU, C.M., et al.; "Structure of Fe layers grown on InAs ..."; Appl. Surf. Sci., 166, (2000) pp 137-142	
		TIUSAN, C., et al.; "Quantum coherent transport versus diode-like effect in ..."; Appl. Phys. Let. 79, (2001) pp 4231-4233	
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		VOLKENING, S., et al.; "CO oxidation on Pt(111)—Scanning tunneling microscopy experiments ..."; J. Chem. Phys. (2001) 114, pp. 6382-6395	
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		WILKE, Steffen, et al.; "Theoretical investigation of water formation on Rh and Pt Surfaces"; J. Chem. Phys., 112, (2000) PP 9986 - 9995	
		WINTTERLIN, J, et al; "Atomic ...Reaction Rates ... Surface-Catalyzed ..."; Science, 278, (1997) pp. 1931 - 1934	
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		ZAMBELLI, T., et al.; "Complex pathways in dissociative adsorption of oxygen on platinum"; Nature 390, pp 495 - 497 (1997)	
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		US-5932885	08-1999	DeBellis et al.	
		US-2001/0018923-A1	09-2001	Zuppero et al.	
		US-2002/0121088-A1	09-2002	Zuppero et al.	

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		REE, J. et al., "Dynamics of Gas-Surface Interactions: Reaction of Atomic Oxygen with Chemisorbed Hydrogen on TUNGSTEN,"	
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		NOLAN, P. D. et al., "Direct verification of a high- translational-energy molecular precursor to oxygen dissociation on Pd(111)," Surface Science Letters, Vol. 419, pp. L107 - L113, September 24, 1998.	
		DAVIS, J. E. et al., "Kinetics and dynamics of the dissociative chemisorption of oxygen on Ir(111)," Journal of Chem. Phys., Vol. 107(3), pp. 943 - 952, July 15, 1997.	
		TRIPA, C. Emil et al., "Surface-aligned reaction of photo- generated oxygen atoms with carbon monoxide targets," Nature, Vol. 398, pp. 591 - 593, April 15, 1999, www.nature.com.	
		SHIN HK, "Vibrationally excited OD Radicals from the Reaction of Oxygen-Atoms with Chemisorbed Deuterium on TUNGSTEN," Journals of Physical Chemistry, Vol. 102(#13), pp. 2372 - 2380, March 26, 1998.	
		TRIPA, C. Emil et al., "Kinetics measurements of CO photo- oxidation on Pt(111)," Journal of Chemical Physics, Vol. 105, Issue 4, pp. 1691 - 1696, July 22, 1996.	

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		G.H. TAKAOKA et al., "Preparation and catalytic activity of nano-scale Au islands supported on TiO ₂ ", Nuclear Instruments & Methods in Physics Research, Section - B: Beam Interactions with Materials and Atoms, North-Holland Publishing Company, Amsterdam, NL, Vol. 121, No.1, 1997, pages 503-506,	
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		P. AVOURIS et al., "Electron-Stimulated Catalysis Device", IBM Technical Disclosure Bulletin, Vol. 25, No. 12, May 1, 1983, pages 6378-6379, New York, US, XP002219954.	

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Application Number	10/052,004
Filing Date	1/17/2002
First Named Inventor	Anthony C. Zuppers
Art Unit	1753
Examiner Name	Alan D. Diamond
Attorney Docket Number	22122878-10

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		"Electron-hole pair creation by reactions at metal surfaces", downloaded from www.aps.org/meet/CENT99/BAPS/abs?S6980001.html American Physical Society Centennial Meeting Program, Atlanta, GA, 20-26 March 1999	
		"Electron-Hole Pair Creation at Ag and Cu Surfaces by Adsorption of Atomic Hydrogen and Deuterium", Physical Review Letters, Volume 82, Number 2. 11 January 1999	
		"The Solarex Guide to Solar Electricity" Solarex Corporation, Inc. Frederick, MD, pp. 66-67, April 1979	

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		GADZUK, "Multiple Electron Processes in Hot-Electron Femtochemistry at Surfaces", http://www.cstl.nist.gov/div837/837.03/highlite/gadzuk1999.htm .	
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		ZHDANOV, et al., "Substrate-mediated photoinduced chemical reactions on ultrathin metal films", Surface Science, 1999, pp. L599-L603, Vol. 432, Elsevier Science B.V.	

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		BONN, M. et al., "Phonon-Versus Electron-Mediated Desorption and Oxidation of CO on Ru(0001)," Science, Vol. 285, No. 5430, Issue of 13 August 1999, pp. 1042-1045.	
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		NIENHAUS, H et al., "Electron-Hole Pair Creation at Ag and Cu Surfaces by Adsorption of Atomic Hydrogen and Deuterium," Physical Review Letters, Vol. 82, Issue 2, January 11, 1999, pp. 446-449.	

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		US-6,537,829	03-2003	Zarling et al.	
		US-6,444,476	09-2002	Morgan, Christopher Grant	
		US-6,399,397	06-2002	Zarling et al.	
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		US-2002/0121088	09-2002	Zuppero et al.	
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		JP-02157012A	06-1990			

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		US-4,012,301	03-1977	Rich et al.	
		US-5,470,395	11-1995	Yater et al.	
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		CHOI, C.K. et al., "Ultrafast carrier dynamics in a highly excited GaN epilayer", Physical Review B, Vol. 63, 115315, 15 March 2001, 6 pages.	-

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